

Environmental Committee (EC)

Enhancing renewable energy incentives



Forum	Environmental Committee (EC)
Issue:	Enhancing renewable energy incentives
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Introduction

Electricity production is the number 1 source of greenhouse gases as it emits more greenhouse gases than all of our cars and planes combined. Clean energy significantly eliminates damaging pollution, toxic buildup in our air and water, and the negative effects of coal mining and gas extraction. This is a worldwide issue, as air and water pollution from fossil consumption and extraction incredibly impacts underprivileged communities in close proximity of such facilities. However, upgrading our fossil-fuel infrastructure would take time and would be useless as fossil fuel, being non-renewable, is likely to run out in 50 years more or less. Therefore, all countries should receive strong, continuous support through both, state and federal mandates to increase renewable energy facilities as well as consumer and business demand for clean energy.

Entering a state of complete reliance on renewable energy would be mainly beneficial to the environment and would be a step closer to achieving the target of eliminating fossil fuel and with them, harmful emissions. In the framework of sustainable development, all governments should strive to support innovative and creative activities in sectors such as affordable modernized energy services, renewable energy, energy-efficient technology, and low-carbon development.

Renewable energy plays an important role in ensuring stable power supplies and fuel diversification, which improves energy security, reduces the danger of fuel spills, and reduces the demand for imported fuels. Renewable energy also contributes to the conservation of the country's natural resources.



Definition of Key Terms

Greenhouse gases

Gases in the earth's atmosphere that trap heat. The sun shines through the atmosphere during the day, warming the earth's surface. The earth's surface cools at night, releasing heat into the atmosphere. However, part of the heat is retained in the atmosphere by greenhouse gases.

Non-renewable resources

Natural resource that cannot be regenerated quickly enough by nature to keep up with its consumption. Carbon-based fossil fuels are one example. With the use of heat and pressure, organic matter transforms into a fuel like oil or gas.

Renewable energy

Energy collected by natural resources that are continuously generated by nature which allows human consumption in regards to the amount of energy available to be infinite. It includes sources such as sunlight, wind, rain, tides, waves, and geothermal heat.

Energy diversification

To lessen reliance on a single resource or provider by using different energy sources, suppliers, and transportation routes used. Diversifying a country's energy mix protects it from energy disruptions and increases its energy security.

Sustainable development

Economic growth that is carried out without loss of natural resources.

National Determined Contribution (NDC)

A climate action plan to cut emissions and adapt to climate impacts.

General Overview

Carbon dioxide and other global warming emissions are overflowing our atmosphere as a result of human activities. These gases operate as a heat trapper, acting like a blanket. As a result, a web of severe and harmful consequences has emerged, spanning from more powerful, frequent storms to droughts, sea level rise, and extinction. It is imperative that the



global economy switches to renewable sources as forms of energy for a variety of reasons including health, economic development and benefits, reliability and prices.

Improved public health

Coal and natural gas plant pollution has been related to respiratory problems, neurological damage, heart attacks, cancer, early mortality, and a slew of other major issues. Pollution has an impact on everyone. The majority of these negative health effects are caused by pollution in the air and water, which clean energy methods do not create. Wind, solar, and hydroelectric power plants create energy without emitting any pollutants into the atmosphere.

Geothermal and biomass systems

Geothermal energy is heat derived within the sub-surface of the earth. Water and/or steam carry the geothermal energy to the Earth's surface.¹ Biomass energy is energy generated or produced by living or once-living organisms.² Geothermal and biomass systems both emit some air pollutants, though total air emissions are generally much lower than those of coal- and natural gas-fired power plants.

Wind and solar energy

Wind and solar energy use almost no water to function, so they don't damage water supplies or put pressure on supplies by competing with agriculture, drinking water, and other critical water uses. Fossil fuels, on the other hand, can have a considerable influence on water resources: both coal mining and natural gas drilling can damage drinking water sources, and all thermal power plants, including those fueled by coal, gas, and oil.

Financing renewable energy (RE) incentives

The need for energy is expected to rise as the world's population continues to expand. Fossil fuel supplies are diminishing, and their usage is linked to environmental

¹ Definition mainly copied from <https://www.irena.org/geothermal#:~:text=Geothermal%20energy%20is%20heat%20derived,harnessed%20to%20generate%20clean%20electricity>.

² Definition mainly copied by <https://education.nationalgeographic.org/resource/biomass-energy>



damage. This emphasizes the importance of increasing investment in energy supplies that can fulfill global demand while still being environmentally friendly. Solar, wind, and hydropower are all viable and widely available sources of clean energy, but investment in them has been inconsistent. In some locations, oil's affordability, ease of supply, and technological maturity have led to a delayed acceptance of renewable energy initiatives.

Types of incentives

Research and development (R&D)

R&D incentives are provided to improve existing technology by establishing research facilities and developing new technologies. These incentives absolutely need the help of governments and major stakeholders such as investors. Countries that produce their own solar panels and wind turbines can become self-sufficient in RE generation and may improve their economy since importing RE infrastructures from other countries is much more costly.

Market development incentives

Getting government permission for projects may be difficult, and projects aren't always given on their merits. As a result, potential investors may lose faith in the company. Setting up a policy with standard prices under the supervision of a regulatory authority will encourage RE investors to invest in clean energy projects. Standard testing and certification for small power producers may also help to boost the renewable energy sector.

Tax incentives

Another method to encourage RE is to impose a tax on fossil fuel production, which would raise its cost of electricity generation and influence competition between the two power generation technologies.



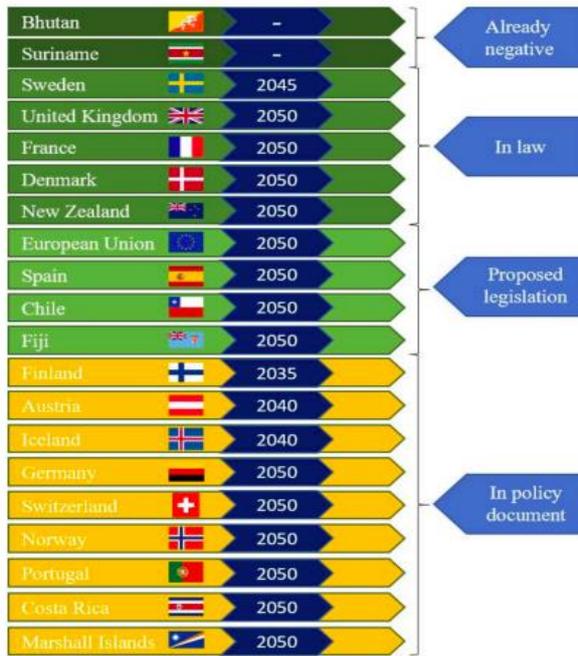


Figure 1: Net Zero Emission race 2020

Major Parties Involved

Energy Independence and Security Act of 2007

By 2022, the United States must have utilised a maximum of 36 billion gallons of biofuels per year. Several states have their own renewable fuel regulations or guidelines. Other government programs give ethanol and other biofuels producers with financial assistance and incentives. Many states have policies in place to encourage or support the use of biofuels.

International Energy Agency (IEA)

The IEA forms an energy forum for 21 industrialised nations with the objective of improving the world's energy supply and demand structure.

Sweden, Norway and Denmark

Have topped the World Economic Forum's latest Energy Transition Index (ETI).

European Green Deal

Has the objective of transforming the EU into a modern, resource-efficient and competitive economy, ensuring no net emissions of greenhouse gases by 2050, economic growth decoupled from resource use, and no person and no place left behind.



International Renewable Energy Agency (IRENA)

IRENA signed a Memorandum of Understanding to promote the use of renewable energy provided by host countries in peacekeeping deployments. Under the terms of the agreement, IRENA and the UN will look for ways to collaborate with countries that host UN peacekeeping missions to find legislative, regulatory, and technological initiatives that can assist nations raise their renewable energy share. In addition, through promoting private sector investment, IRENA will aid the United Nations in boosting renewable energy generation in these areas.

Timeline of Key Events

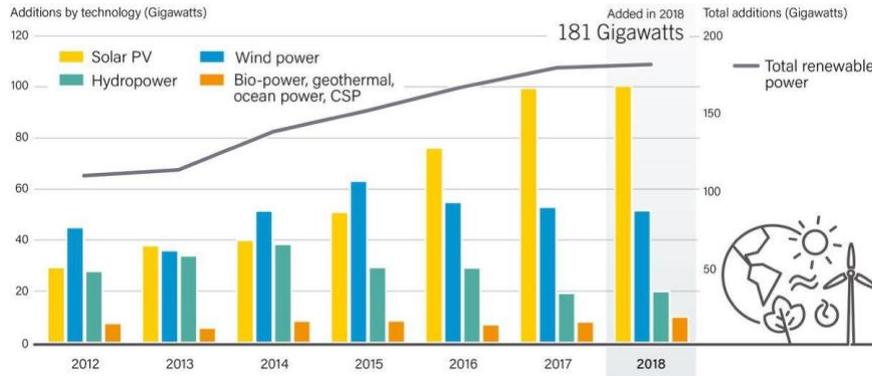
You can include a small paragraph to explain the timeline. Otherwise you should follow the format specified below:

Date	Description of event
February 9 th , 1999	Electric Discount and Energy Competition Act (EDECA)
December 31 st , 2005	Regional Greenhouse Gas Initiative (RGGI)
January 1 st , 2007	Global Warming Response Act (GWRA)
August, 2010	Offshore Wind Economic Development Act (OWEDA)
December 6 th , 2011	New Jersey Draft Energy Master Plan
July 23 rd , 2012	Solar Act
August 27 th , 2018	Clean Energy Plan
2019	Global electricity generation from renewables increased 440 TWh
December, 2020	Signing of Paris Agreement
November 15 th , 2021	182 Parties had included renewable energy components in their NDCs, of which only 144 had a quantified target

Figure 2: Global transition to renewable energy



Annual Additions of Renewable Power Capacity, by Technology and Total, 2012-2018



UN involvement, Relevant Resolutions, Treaties and Events

- Promotion of new and renewable sources of energy, (A/RES/69/225)
- Promotion of new and renewable sources of energy, including the implementation of the World Solar Programme, 1996-2005, (A/RES/60/199)
- Promotion of new and renewable sources of energy, 27/07/2015, (A/71/220)
- Renewable Electricity Production Tax Credit (PTC)
- Investment Tax Credit (ITC)
- Residential Energy Credit
- Modified Accelerated Cost-Recovery System (MACRS)
- Energy Independence and Security Act of 2007
- Paris Agreement of 2020

Previous Attempts to solve the Issue

All previous attempts in enhancing renewable energy incentives, including those mentioned in the previous two sections of the research reports have been effective to some extent as they have raised awareness about the importance of the issue and its direct link with the global, and state, economy. However, since these agreements are not forced by law, countries have the facility to step out of them whenever they want which, unfortunately, in some cases happens. However, many of the UN imposed goals for years such as 2020, 2026 or 2030 regarding GHG have been reached and seem in the process of



being even left behind. In fact, most countries are trying to switch to renewable resources and stop using fuel with Germany leading as #1 state with less GHG.

Possible Solutions

Residential and commercial property owners can get incentives from local governments to switch from traditional energy sources to renewable energy sources. This is a fantastic approach to aid in the reduction of fossil fuel pollution. Wind, solar, hydropower, and geothermal are all examples of renewable energy generation methods. This legislation should be written in such a manner that it takes use of the most favourable renewable energy sources available in the area where the local government is located. Local governments in the sun-drenched southwest, for example, may aim to capitalise on and establish incentives for solar energy. Solar panels can be added to existing structures easily making solar an ideal source of renewable energy for those with an abundance of sun.

Furthermore, removing energy taxing from people using renewable energy instead of fuel would certainly encourage people to either build collectors of natural resources on their already existing houses, such as solar panels, or to contribute in other ways such as driving an electric car rather than a fuel-based one. On this note, significantly increasing parking places for electric cars with the charging columns would make it even more convincing for any potential buyers to actually buy such a product.

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“Renewable Energy explained”, 5/11/2021, EIA,

<https://www.eia.gov/energyexplained/renewable-sources/incentives.php>

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“Incentives and strategies for financing the renewable energy transition”, Nov 2021, Published by Elsevier LTD., <https://www.sciencedirect.com/science/article/pii/S2352484721004066#b131>

Appendix or Appendices

I. 5 ways to boost renewable energy investment in developing economies

<https://www.weforum.org/agenda/2021/06/boost-renewable-energy-investment-in-developing-economies/>

II. Enhancing, Expanding Tax Incentives is Key Part of Funding Infrastructure

<https://www.novoco.com/periodicals/articles/enhancing-expanding-tax-incentives-key-part-funding-infrastructure>

III. Encouraging take up of Renewable energy

<https://www.local.gov.uk/case-studies/encouraging-take-renewable-energy>



IV. Promote Renewable Energy with Incentives

<https://sustainablecitycode.org/brief/promote-renewable-energy-with-incentives/>

